DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Uchida et al. (US Pat. No.: 6,930,661) and further in view of Trovato et al. (US Pat.

No.: 6,445,306).

Regarding claim 1, Fig. 1 of Uchida teaches a bi-directional communication

system comprising a base apparatus and a display apparatus. Fig. 1 of Uchida teaches

the recited wireless center having, **"[1] a tuner section for performing channel**

selection [*'base apparatus 200 has an antenna 201 and a tuner for receiving and*

selecting analog television broadcast signals' (col. 4/lines 43-44)]**"** and "[2] **a first**

transmitting/receiving section for transmitting/receiving broadcast information of

a channel selected by the tuner section and other data [*'the base apparatus can*

compress data, such as a video signal and/or an audio signal from a television

program…[which] is formed into a transmission signal and transmitted to the display

apparatus 100' (col. 4/57-62)].**"**

As to the recited AV output device, the display apparatus taught by Uchida

teaches the recited "[1] **a display section** *(Fig. 1, 107; col. 4/63-37),* [2] **a channel**

selection input section for receiving an input operation causing the tuner section

to perform channel selection *(Fig. 1, CP; col. 5/6-10)*, [and] [3] **a second**

transmitting/receiving section capable of receiving the broadcast information and

transmitting/receiving data wirelessly to/from the first transmitting/receiving

section *(Fig. 2, 101, 111, 112)."*

Though Uchida teaches that the display apparatus contains ROM, RAM, and

EEPROM memory modules 132-134 which can store, *"various processing programs to*

be executed by the display apparatus 100, predetermined display data for the control

panels corresponding to the connected external input apparatuses...[and] various

setting parameters" (col. 6/32-52), Uchida does not explicitly teach that the display

apparatus contains the recited "...[4] **a first channel identification information**

memory section for storing channel identification information being available for

identifying a channel selected by the up-down input operation." Further, while Fig.

5 of Uchida teaches a method by which that the wireless display apparatus converts

remote control inputs into corresponding system commands and wirelessly transmits

said control signals to the base device, Uchida does not explicitly teach that the

command conversion section converts **"the up-down input operation for a channel**

selection to a direct channel selection command that is transmitted to the

wireless center," as recited.

In an analogous art, Fig. 3 of Trovato teaches a system comprising a plurality of

lists 251-3 identifying programs and their corresponding channels and a channel

determinator 260 that determines what channel to tune in response to a channel

up/down input. Specifically, Trovato teaches:

> When the user communicates an increment or decrement command 201, by activating, for example, the increment control 101…The channel determinator 280 determines the channel number 281 corresponding to the selected entry and communicates this number to the appliance 150 to effect the selection of this channel…The channel determinator 280 may merely extract a channel number 281 from the entry in the list. Alternatively, if the entry in the list contains a network identifier, such as NBC, CNN, and so on, the channel determinator 280 also includes a transformation table for transforming the network identifier to a channel number 281 for use by the appliance 150. (col.6/40-58)

The lists and transformation table taught by Trovato are equivalent to the recited first channel identification memory and the channel determinator performs the equivalent function of the recited command conversion section. Regarding the limitation that the command conversion section converts an up/down channel selection command to a direct channel selection command, Trovato teaches:

> [w]hen the user enters an increment/decrement command 201, the remote control 100 *[comprising said channel determinator]* extracts the next or prior channel number from the selected list and communicates the channel number directly to the channel selector 110, equivalent to the user explicitly entering this channel number on a conventional remote control 100" (col. 7/9-14).

Trovato further teaches, *"[a]s would be evident to one of ordinary skill in the art, the functional blocks of FIG. 3 may be located in the channel selector 110, in the remote control 100, or distributed between the channel selector 110 and the remote control 100"* (col. 6/59-63). As Uchida teaches that the wireless display apparatus functions as a remote control and comprises a plurality of memory devices, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the remote control functionality of Uchida's display apparatus to comprise the channel lists and determinator taught by Trovato, such a modification being a combination of known

elements that would have yielded predictable results to one of ordinary skill in the art at the time of the invention. This would have been desirable as one of ordinary skill in the art at the time of the invention would recognize that performing said channel determination at the wireless device would have reduced processing time and bandwidth.

Claims 3, 4, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida in view of Trovato as applied to claim 1 above, and further in view of Hakamada et al. (US Pat. No.: 4,870,492).

As to claim 3, the rejection of claim 1 is incorporated herein. While Uchida and Trovato teach system and first channel identification information recited in claim 1, it does not explicitly recite that said information indicates **"whether or not a station has been registered for a channel selected by the up-down input operation,"** as recited. In an analogous art, Fig. 1 of Hakamada teaches a channel table with a skip flag associated with each channel. Hakamada teaches that *"[t]he auto-programming feature determines which channels are in use and stores skip channel data in a memory so that unused channels are not accessed by the user"* [ABST]. It would have been obvious to one of ordinary skill in the art at the time of the invention that the channel transformation table taught by Trovato and stored in the memory of the wireless display apparatus could be modified to include the skip data taught by Hakamada. This would have been desirable so that the channel determinator would be able to bypass channels that are not in use when converting an up/down channel selection command into a

direct channel selection command. The skip channel data indicating unused channels

taught by Hakamada is equivalent to the recited indicating "whether or not a station has

been registered for a channel selected by the up-down input operation," as recited.

As to claim 4, Fig. 3 of Hakamada teaches a method for performing an automatic

channel scan of and setting the corresponding skip flags for all available channels, such

that *"the skip flag data SFLG of all the channels are checked, whereby the skip flag data*

SFLG of selected channels and those on which no television signal is received have

their skip flag data SFLG reset to the skip mode (SFLG= '0') and those channels

through which a television signal is received are set to '1'" (col. 3/line 39—col. 4/line 18).

As the display apparatus taught by Uchida does not have a tuner, it would have been

obvious to one of ordinary skill in the art at the time of the invention that the this channel

scan could be conducted by the base unit of Uchida's system and that the channel

identification information would be transmitted from the base device to the display

device to be stored in the memory **132-4** of the display device.

As to claim 13, the rejections of claims 3 and 4 are incorporated herein. Fig. 5 of

Uchida teaches the mechanism by which the display device wirelessly transmits control

signals to the base device. The first step:

> [1] collecting, based on a result of the channel selection performed by the
> tuner section, channel identification information including skip information
> indicative of whether or not a station has been registered for each channel
> and transmitting the channel identification information to the AV output
> device wirelessly

is equivalent to the automatic channel scan taught by Fig. 3 and col. 3/line 39—

col. 4/line 18 of Hakamada. As analyzed above, since the wireless display apparatus

taught by Uchida does not have a tuner, it would have been obvious to one of ordinary

skill in the art at the time of the invention that the this channel scan could be conducted

by the base unit of Uchida's system and that the channel identification information

would be transmitted from the base device to the display device to be stored in the

memory **132-4** of the display device.

As to the third second step:

> [2] storing the transmitted channel identification information in the memory
> section, detecting, responsive to <u>an</u> up-down input operation in the
> channel selection input section, a channel identified with reference to the
> channel identification information stored in the memory section, generating
> a direct channel selection command for selecting the identified channel,
> transmitting the direct channel selection command to the wireless center
> side wirelessly and causing the tuner section to directly perform channel
> selection without having to decode and convert an up-down channel
> selection command, received by the wireless center from the AV output
> device and which is not a direct channel selection command, to a direct
> channel selection command,

the transformation table comprising channel skip information taught by Trovato

and Hakamada which is stored in the memory of the wireless display apparatus of

Uchida (as analyzed above) performs the recited storing transmitted channel

identification information in the memory. The recited detecting a channel identified with

reference to the channel identification information and generating a direct channel

selection are performed by the channel determinator of Trovato as cited above w/r/t

claim 1.

As to claim 15, the rejection of claim 13 is incorporated herein. Fig. 6 of Uchida

teaches the first step of "[1] **wirelessly receiving the input operation from the AV**

output device at the wireless center and causing the tuner section to perform the

channel selection based on the input operation." As to the second step of the

method, "[2] **collecting at the wireless center, based on a result of the channel**

selection, channel identification information including skip information indicative

of whether or not a station has been registered for each channel...," is taught by

the automatic channel scan taught by Fig. 3 and col. 3/line 39—col. 4/line 18 of

Hakamada as analyzed above. The amended limitation that "...**the channel**

identification information serving as a reference for the AV output device to

generate a direct command to cause the tuner section to directly select a channel

identified by an up-down channel selection at the channel input section," is taught

by the channel determinator of Trovato which is located in the wireless display

apparatus of Uchida and references the transformation table comprising channel skip

information taught by Trovato and Hakamada, stored in the memory of the wireless

display apparatus of Uchida (as analyzed above). As to the third step of "[3]

transmitting the channel identification information wirelessly to the AV output in

one transmission from the wireless center," Fig. 5 of Uchida teaches a method by

which that the wireless display apparatus converts remote control inputs into

corresponding system commands and wirelessly transmits said control signals to the

base device.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Miura et al. (US Pat. No. 6,996,837) and further in view of Trovato et al. (US Pat.

No.: 6,445,306).

As to claim 17, Miura teaches the recited "**wireless center** *(master terminal 1,*

Fig. 1 and 2) **having a tuner section for performing channel selection** *(see TB, Fig.*

1 and 2 and col. 1/lines 52-62) and **a first transmitting/receiving section for**

transmitting/receiving broadcast information of a channel selected by the tuner

section and other data *(RT, Fig. 1 and 2).*" Miura further teaches the recited AV

output device having "**a display section** *(Fig. 1, TV 5)*, **a channel selection input**

section for receiving an input operation causing the tuner section to perform

channel selection *(Fig. 3, Remote Control Receiver RT10)*, **and a second**

transmitting/receiving section capable of receiving the broadcast information and

transmitting/receiving data wirelessly to/from the first transmitting/receiving

section *(Fig. 3, slave terminal 2).*"

However, Miura does not explicitly teach that the display apparatus contains the

recited "...[4] **a first channel identification information memory section for storing**

channel identification information being available for identifying a channel

selected by the up-down input operation." Further, while Miura teaches that the

slave terminal receives remote control inputs, converts said inputs into corresponding

system commands, and wirelessly transmits said control signals to the base device,

Miura does not explicitly teach that the command conversion section converts "**the up-**

down input operation for a channel selection to a direct channel selection

command that is transmitted to the wireless center," as recited.

In an analogous art, Fig. 3 of Trovato teaches a system comprising a plurality of

lists 251-3 identifying programs and their corresponding channels and a channel

determinator 260 that determines what channel to tune in response to a channel

up/down input. Specifically, Trovato teaches:

> When the user communicates an increment or decrement command 201,
> by activating, for example, the increment control 101...The channel
> determinator 280 determines the channel number 281 corresponding to
> the selected entry and communicates this number to the appliance 150 to
> effect the selection of this channel...The channel determinator 280 may
> merely extract a channel number 281 from the entry in the list.
> Alternatively, if the entry in the list contains a network identifier, such as
> NBC, CNN, and so on, the channel determinator 280 also includes a
> transformation table for transforming the network identifier to a channel
> number 281 for use by the appliance 150. (col.6/40-58)

The lists and transformation table taught by Trovato are equivalent to the recited

first channel identification memory and the channel determinator performs the

equivalent function of the recited command conversion section. Regarding the limitation

that the command conversion section converts an up/down channel selection command

to a direct channel selection command, Trovato teaches:

> [w]hen the user enters an increment/decrement command 201, the remote
> control 100 *[comprising said channel determinator]* extracts the next or
> prior channel number from the selected list and communicates the
> channel number directly to the channel selector 110, equivalent to the
> user explicitly entering this channel number on a conventional remote
> control 100" (col. 7/9-14).

Trovato further teaches: *"[a]s would be evident to one of ordinary skill in the art,*

the functional blocks of FIG. 3 may be located in the channel selector 110, in the remote

control 100, or distributed between the channel selector 110 and the remote control

100" (col. 6/59-63). As Miura teaches that the slaver terminal device receives and

transmits control signals from remote control 2A to the master terminal 1, it would have

been obvious to one of ordinary skill in the art at the time of the invention to modify

Miura's slave terminal to comprise the functional blocks of Fig. 3, as taught by Trovato, such a modification being a combination of known elements that would have yielded predictable results to one of ordinary skill in the art at the time of the invention. This would have been desirable as one of ordinary skill in the art at the time of the invention would recognize that performing said channel determination at the wireless device would have reduced processing time and bandwidth.

The recited remote controller is explicitly taught by Miura *(see Fig. 1, remote control 2A)*.

Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al. (US Pat. No. 6,996,837) and Trovato et al. (US Pat. No.: 6,445,306) as applied to claim 1 above, and further in view of Hakamada et al. (US Pat. No.: 4,870,492).

As to claims 18 and 19, the rejection of claim 17 over Miura in view of Trovato is incorporated herein. With respect to claim 18, the recited first step,

> [1] collecting, based on a result of the channel selection performed by the tuner section, channel identification information including skip information indicative of whether or not a station has been registered for each channel and transmitting the channel identification information to the AV output device wirelessly,

is equivalent to the automatic channel scan taught by Fig. 3 and col. 3/line 39— col. 4/line 18 of Hakamada. As analyzed above, since the wireless display apparatus taught by Miuera does not have a tuner, it would have been obvious to one of ordinary skill in the art at the time of the invention that the this channel scan could be conducted

by the base unit of Miura's system and that the channel identification information would

be transmitted from the base device to the display device to be stored in the memory

132-4 of the display device.

As to the second recited step:

> [2] storing the transmitted channel identification information in the memory
> section, detecting, responsive to <u>an</u> up-down input operation in the
> channel selection input section, a channel identified with reference to the
> channel identification information stored in the memory section, generating
> a direct channel selection command for selecting the identified channel,
> transmitting the direct channel selection command to the wireless center
> side wirelessly and causing the tuner section to directly perform channel
> selection without having to decode and convert an up-down channel
> selection command, received by the wireless center from the AV output
> device and which is not a direct channel selection command, to a direct
> channel selection command,

the transformation table comprising channel skip information taught by Trovato

and Hakamada which is located at the slave terminal of Miura (as analyzed above)

performs the recited storing transmitted channel identification information in the

memory. The recited detecting a channel identified with reference to the channel

identification information and generating a direct channel selection are performed by the

channel determinator of Trovato as cited above w/r/t claim 1. The recited remote

controller is explicitly taught by Miura *(see Fig. 1, remote control 2A)*.

As to claim 19, the rejection of claim 18 is incorporated herein. Miura *(col. 1/lines

52-62)* teaches the first step of "[1] **wirelessly receiving the input operation from the**

AV output device at the wireless center and causing the tuner section to perform

the channel selection based on the input operation." As to the second step of the

method, "[2] **collecting at the wireless center, based on a result of the channel**

selection, channel identification information including skip information indicative

of whether or not a station has been registered for each channel...," is taught by

the automatic channel scan taught by Fig. 3 and col. 3/line 39—col. 4/line 18 of

Hakamada as analyzed above. The amended limitation that "...**the channel**

identification information serving as a reference for the AV output device to

generate a direct command to cause the tuner section to directly select a channel

identified by an up-down channel selection at the channel input section," is taught

by the channel determinator of Trovato, which is located in the slave terminal of Mirura

and references the transformation table comprising channel skip information taught by

Trovato and Hakamada, stored in the located at the slave terminal of Miura (as

analyzed above). As to the third step of "[3] **transmitting the channel identification**

information wirelessly to the AV output in one transmission from the wireless

center," col. 1 of Miura (cited above) teaches that the slave terminal transmits the

remote control command to the master terminal. The recited remote controller is

explicitly taught by Miura *(see Fig. 1, remote control 2A)*.

Response to Arguments

Applicant's arguments filed 21 October 2009 have been fully considered but they

are not persuasive. With respect to claims 1, 13, and 15, Applicant alleges that the

cited prior art, particularly Trovato, fails to teach each and every limitation of the claims.

Specifically, Applicant alleges:

> However, transmitted to the channel selector 110 in Trovato is the
> "channel number," and is not "a direct channel selection command that is

transmitted to the wireless center for causing the tuner section to directly
perform channel selection without having to decode and convert an up-
down channel selection command...to a direct channel selection
command," unlike in the present claimed invention of independent claim 1.
  That is, the technique disclosed in Trovato requires the channel
selector 100 to decode the information indicative of the received channel
number (a remote control code indicative of the received channel number)
before channel selection. Therefore, with the technique disclosed in
Trovato, it is impossible to attain the effect given by the present claimed
invention of independent claim 1, i.e., the response improving effect.
(Remarks, pg. 12)

he Examiner respectfully disagrees. As cited above, Trovato teaches:

[w]hen the user enters an increment/decrement command 201, the remote
control 100 *[comprising said channel determinator]* extracts the next or
prior channel number from the selected list and communicates the
channel number directly to the channel selector 110, equivalent to the
user explicitly entering this channel number on a conventional remote
control 100" (col. 7/9-14).

Trovato explicitly teaches that when a user enters an up/down channel change

command on a remote control, the remote control itself translates that up/down

command analyzes the command and converts the generic up/down channel command

into a request for a specific channel, which specific request is then transmitted from the

remote control to the tuner. The Examiner maintains that a command requesting a

specific channel, as taught by Trovato, is functionally equivalent to the recited "direct

channel selection."

As to Applicant's argument that Trovato fails to disclose the recited technique

because "...the technique disclosed in Trovato requires the channel selector 100 to

decode the information indicative of the received channel number (a remote control

code indicative of the received channel number) before channel selection," the

Examiner maintains that the channel identifier extraction utilizing a table performed by

Trovato is functionally equivalent to the recited command conversion. Further, as the wireless display device of Uchida incorporates remote control functionality into said display device (see, e.g., Fig. 1 and 9A-C), modifying Uchida's display device to incorporate the functionality taught by Trovato would produce a wireless AV system completely in accordance with that recited by the claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Stronczer whose telephone number is (571) 270-

3756. The examiner can normally be reached on 7:30 AM - 5:00 PM (EDT), Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian T. Pendleton can be reached on (571) 272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2425

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